

REMARKS

This Amendment, filed in reply to the Office Action dated December 21, 2009, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-23 are all the claims pending in the application.

Claim Rejections under 35 U.S.C. § 102

Claims 1-4 and 12-17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Moring et al. (U.S. Patent No. 6,159,368).

Claims 1 and 2 are rejected under 35 U.S.C. § 102(b) as being anticipated by Mori et al. (U.S. Publication No. 2003/0170664).

Claim Rejections under 35 U.S.C. § 103

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Moring et al.

Allowable Subject Matter

Claims 6-11 and 18-23 are allowed.

While gratefully acknowledging the allowability of claims 6-11 and 18-23, Applicant submits that all the pending claims are patentable over the art of record. Applicant respectfully submits the following arguments in traversal of the prior art rejections.

Claim 1:

The reference Moring does not disclose the following feature of the cartridge of the present invention described in claim 1: inserting a bottom member and nucleic acid-adsorptive porous membrane into a cavity of an injection molding die; and injecting the molding material into the cavity to form the cylindrical main part of the cylindrical main body, wherein a portion forming a cylindrical part and is integrated with the bottom member. In the structure of the

cartridge of the claim 1, the cylindrical part and the bottom member are formed integrally sandwiching and holding the nucleic acid-adsorptive porous membrane through the injection molding so as not to be separated. Please see descriptions in paragraph [0017], LL. 1-15, FIGS. 3A, 3B, 4A, 4B, 5A-5D, and 6 of the present application.

In contrast, the reference Moring discloses a multi-well microfiltration apparatus comprising a column plate, a discrete filter element, and a drip-director plate. The column plate and the drip-director plate are not formed integrally through the injection molding sandwiching and holding the filter element. Please see descriptions in the abstract, column 11 (LL. 26-43), and FIG. 3 of the reference Moring. The cited portion of Moring generally discusses that injection molding can be used. However, those disclosures are insufficient to describe the nature of the injected molding material into a cavity and a holding of the nucleic acid-adsorptive porous membrane. For example, the Examiner's citation at col. 16 suggests that there is a later insertion of the membrane to be pinched or compressed. This does not suggest the manner of injection molding of the structure as claimed. Therefore, the structure of the cartridge of the present invention is different from the structure of the multi-well microfiltration apparatus of the reference Moring.

By configuring the cartridge of the present invention as described in the claim 1, the following distinguished effects are provided: a special facility for adhering such as an ultrasonic welder is unnecessary. Further, problems are prevented, such as breakage and poor sealing of the membrane. Please see descriptions of the specification in paragraph [0017], LL. 16-24 of the present application. Such distinguished effects of the claim 1 are not disclosed in the reference Moring.

Claim 12:

The reference Moring does not disclose the following feature of the protrusions and the nucleic acid-adsorptive porous membrane of the cartridge described in the claim 12: "the bottom part has a bottom face and a plurality of protrusions formed on the bottom face; at least a part of a top part of each protrusion supports the nucleic acid-adsorptive porous membrane; and a closer portion of the nucleic acid-adsorptive porous membrane to the bottom part opening is made more displaced towards the discharge part during use."

In contrast, the reference Moring discloses the following support buttress and the filter element: "the support buttresses are configured to support the filter element without introducing substantial dead volume or preferential flow in the system." Please see descriptions in column 17, LL. 29-57, and FIG. 6. Thus, the Examiner's own citation to col. 17 does not support the rejection. Therefore, the structure of the cartridge of the present invention is different from the structure of the multi-well microfiltration apparatus of the reference Moring.

By configuring the cartridge of the present invention as described in the claim 12, the following distinguished effects are provided: "the washing liquid is rapidly discharged from the discharged part without remaining on the bottom part of the cylindrical main body. The discharged recovery liquid is prevented from being contaminated with the washing liquid." Please see descriptions of the specification in paragraphs [0034], [00163]-[[00165]], and FIGS. 12, 13, 15, and 16 of the present application. Such distinguished effects of the claim 12 are not disclosed in the reference Moring.

Claim 1:

Similarly to the reference Moring, the reference Mori does not disclose the following feature of the cartridge of the present invention described in the claim 1: "a portion forming the cylindrical part which is the other of the two parts that sandwich and hold the nucleic acid-adsorptive porous membrane is integrated with the bottom member." According to the reference Mori, when the unit for isolation and purification of nucleic acid is produced, an additional joint step is required, including use of an adhesive, screw cramp, and fusion bond by ultrasonic heating. This joint step is not necessary for the present invention. Please see descriptions in paragraph [0078] of the reference Mori. Therefore, the structure of the cartridge of the present invention is different from the structure of the unit for isolation and purification of nucleic acid of the reference Mori.

Applicant adds new claims 24 and 25. The new claim 24 is an independent claim made by incorporating the feature of the claim 3 into the claim 1. The new claim 25 is a dependent claim of the claim 24, including the feature of the claim 4.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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